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ABSTRACT

A study to identify determinants of administrator salaries and school district salary decision-making processes is described in this report. A three-part methodology included a telephone survey of 23 out of 27 administrators, an analysis of formal district salary schedules, and a data analysis of state personnel files. The state records analysis included data from 27 large suburban school districts, which employed 1,866 administrators. Multiple regression analysis was used to test the relationship between administrators' salaries and several independent personal and organizational variables across 11 administrative positions. A conclusion was that salary differentials are not directly a function of administrator experience and advanced degrees. Nonwhites and females were found to receive lower salaries than white males for a majority of the positions. Recommendations were made for salary research that focuses on organizational variables and internal decision-making processes. Three statistical tables and an extensive bibliography are included. (LMI)

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COMPENSATING SCHOOL ADMINISTRATORS: THE IMPACT OF PERSONAL AND ORGANIZATIONAL CHARACTERISTICS ON ADMINISTRATOR SALARIES

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COMPENSATING SCHOOL ADMINISTRATORS: THE IMPACT OF PERSONAL AND ORGANIZATIONAL CHARACTERISTICS ON ADMINISTRATOR SALARIES

INTRODUCTION

Determining appropriate salaries has long concerned economists and managers of large organizations. Traditionally public and private sector employers have designed compensation plans to attract, retain and motivate qualified employees.[1] More recently, other issues, including equity and the contribution of salaries to the escalating costs of social services have generated general interest in public sector compensation practices. Yet little is known about the factors that organizations actually consider in rewarding executives.[2]

In education compensation research has focused on teacher salaries. Similarly, teacher compensation has been addressed by many states as part of the educational reform movement.[3] Despite the growing acknowledgement of the role of administrators in creating effective schools and districts, less attention has been given to administrator compensation. The widespread use of salary schedules based on experience and education in public school systems suggests that administrators have been rewarded primarily

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* This article was developed from data reported in Carol M. McKenzie's dissertation, *A Study of the Relationship of Selected Wage Criteria to Administrative Salaries in Suburban School Districts in Texas*, The University of North Texas, 1989. The paper was presented at the 1990 annual meeting of the American Educational Research Association.

for those factors,[4] but little research to document this and to identify other salary determinants has been done.

This study was designed to identify determinants of administrator salaries and to describe the processes school districts use to set salaries. Many factors can affect salary. The American Compensation Association[5] identified 93 possible pay determinants including external factors such as supply and demand or geographic differences, industry patterns and individual skill, preparation, personal characteristics and effort. This study addressed only a small number of these determinants.

BACKGROUND

In the past, the majority of school districts in the Unites States have used schedules based on formal schooling and years of experience to determine teacher salaries, and teacher salary schedules have affected administrator salaries directly or indirectly. Administrators often are on the same schedules or on index or ratio schedules where positions are weighted in relation to the position of teacher. Caldwell[6] argues that districts address the issue of administrator salaries by comparing them with teacher salaries and pay increases, and, if salary levels increase from teacher to principal to central office administrator, these salaries seem reasonable to school board members and the public.

Until 1984 Texas used a state minimum salary schedule based on experience and education that included administrators. State funds provided through personnel units guaranteed school districts the money for base salaries and annual pay increases. However, this minimum was so low that many districts supplemented salaries with local funds and thus could compensate administrators for other factors. As part of the 1984 reform package the legislature simplified the state salary schedule, intending, among other things, for districts to formulate their own pay systems for administrators.[7]

Formulas based on experience and education seem to remain the dominant national approach to administrator compensation[8] probably because they are easy to understand and apply. However, their use has been criticized. There is no evidence that wage policies based on seniority help an organization to attract and retain employees,[9] and, where seniority is the sole criterion, it has proved ineffective in attracting and retaining them.[10] Finally, seniority-based schedules may produce inequities when managers earn less than their longer-tenured subordinates or when gender and race are associated with less seniority.[11] The questionable connection between experience and education and job performance suggests that these salary schedules drive up costs without producing comparable productivity gains.

The shortcomings of single salary schedules have led to interest in compensation systems that take into account the

responsibilities associated with the job, its value to the organization and the performance of the incumbent. A variety of specific methods for linking salary to performance and responsibility have been proposed.[12]

Despite this interest, little is known about how wage decisions are made and what factors actually determine administrator salaries. The research that has been done shows that experience, education, and sex have a significant salary impact. Research on determinants of teacher salaries suggests that administrator salaries also may reflect district wealth or level of expenditure.

Determinants of Administrator Salaries

National and state salary surveys showing averages and minimum and maximum pay for administrative positions are conducted frequently, but they rarely provide a basis for analyzing salary determinants. Steiber's nation-wide study of 1973-1974 administrative salaries addressed the criteria affecting salary differences.[13] This survey of salaries in a stratified random sample of 562 districts showed that many districts did not use formal salary schedules. Larger districts were most likely to have formal compensation policies. Ninety-seven percent of the districts with average daily attendance above 12,000, but only 29% of those with ADA below 6,000 had salary schedules for administrators.

Differentials in these schedules were based on the level and size of the school and the individual's academic degrees.

Sex equity concerns underlie the limited published research on salary determinants in public school administration. Three studies examined sex-based salary differences. No studies of salary differences in public school administration based on race or ethnicity were found. Research on equity for minorities in public school administration has emphasized access to administrative positions rather than compensation.[14] However, compensation research in universities has addressed racial discrimination. For example, Ford[15] reported discrimination at a university in awarding salaries to minority professors even when length of experience and academic ranks were comparable to that of white professors.

Studies of sex based salary differentials provide relatively recent data on administrator compensation in three states. Stone[16] examined salaries of educators who became principals or vice-principals after 1971-1972 in Oregon. Men's salaries were significantly affected by a variety of determinants. Both the master's degree and the doctorate, or their equivalent in hours, working in a secondary school, and increases in teaching and administrative experience were associated with higher salaries, while administering schools in small districts (under 500 students) and in districts with declining enrollments were associated with smaller salaries. Of the 639 principals and vice-principals in the

sample, only 116 were women. The comparison of the regression equations for men and women showed no significant salary difference.

Pounder[17] examined the male/female salary differential for elementary principals in an unidentified midwestern state. She found gender and experience, but not education, to be significant predictors of elementary principals' salaries, accounting, in combination for 23.1% of the salary variance. Gender explained 5.8% of the variance, and descriptive statistics indicated that men earned on the average $137 more per month than women.

Tracy and Sheehan[18] studied 293 building and central office administrator's salaries in 14 suburban Ohio districts ranging in size from 2,000 to12,000 students. They examined the effects of experience, number of staff supervised, age, total district budget, percent of decisions cleared with supervisor and gender. Gender accounted for significant salary variation, even after controlling for the variables of years in administration, size of staff supervised, and years in the present position. Differences in job responsibility had no effect on salary. They also found that daily salaries for many administrators were lower than teacher salaries, with additional contract days producing higher total salaries. Size of staff was the only responsibility indicator with a significant effect on salary.

Determinants of Teacher Salaries

Much of the compensation research in education has focused on teacher salaries. Researchers have been concerned with inter-district salary differences and how these differences affect the ability to attract and retain teachers. As administrator salaries often are indexed to teacher salaries or included on the same schedule, this research has some bearing on administrator salaries.

Two theories of determinants of teacher salaries have been supported. The hedonic wage theory reflects open market assumptions and treats the teacher as a rational decision maker seeking to maximize personal benefits in seeking employment.[19] District wealth and expenditure affect salary and working conditions and thus the ability to attract teachers. Swanson,[20] showed that districts with a more attractive mix of benefits, defined as level of expenditure, attract teachers from districts that spend less. Pederson[21] found that the greater the salary differentials between districts, the higher the migration rate from lower to higher paying districts. In addition, the higher the differentials in per pupil expenditure and state equalized valuation per pupil between districts, the higher the teacher migration rate from the less wealthy to the more wealthy districts. Thus teachers do attempt to maximize benefit by moving to districts that offer higher salary and better working conditions.

King[22] found that, in New York State, a community's ability and willingness to pay teachers, reflected in its socio-economic status, was the strongest predictor of teacher salary levels. He reported that differences in the cost of living, quality of the local labor force, and the quality of teachers themselves to be insignificant predictors of salary differences among districts. In Texas, districts with greater local wealth tend to pay teachers more and hire teachers with more training and experience.[23]

While the hedonic theory focuses on the employee's decision, the second, and related, theory attempts to explain school district salary decisions as a function of social comparison. Gerwin[24] examined practices of setting beginning teachers' salaries in Wisconsin. He found that, when beginning salaries were increased in leading districts, other systems in turn raised their salaries. Mathews and Brown[25] surveyed 399 superintendents of districts in 19 Standard Metropolitan Statistical Areas, 253 of whom indicated that the amount of money available in their district was the most important factor in determining salary schedules, while 79 identified salaries paid in other districts as the most important factor considered in setting salaries. Differences in the cost of living among the SMSA's was not a significant variable. While available resources are a primary factor in setting salaries, districts do try to keep their salaries comparable to those of other school systems.

Applying these findings to administrator salaries would suggest that district expenditure is a significant determinant of administrator salaries. The same social comparison process that affects a district's decision making in setting teacher salaries may also affect its decisions about administrator salaries.

METHODOLOGY

Districts selected for the study were all suburban districts in Texas with average daily attendance of 10,000 or more. A district was considered suburban if located within the county of a major urban center. Suburban districts were chosen because they tend to be "lighthouse" districts[26] and are perceived as early adopters of innovative practices.[27] In light of Steiber's[28] findings that large districts are more likely than smaller districts to have formal salary policies and practices, these districts in this sample were considered most likely to have implemented formal compensation programs.

Twenty-seven districts, employing 1,866 administrators in the positions selected for this study met the criteria for inclusion. Salary data were obtained from Texas Education Agency data files which compile school districts'1986-7 personnel reports to the state. The files include information on each administrator's sex, ethnicity,

degrees, total experience in education, district experience, and salary. For each school district the state files provide data on enrollment (1986-7 Average Daily Attendance) and district expenditure.

Eleven administrative positions considered relatively comparable among districts were studied: Deputy Superintendent, Associate Superintendent, Administrative Officer-Business, Administrative Officer Personnel, Elementary Principal, Elementary Assistant Principal, Middle School/Junior High Principal, Middle School/Junior High Assistant Principal, Senior High School Principal and Senior High School Assistant Principal. Superintendents were not included because significant compensation in the form of fringe benefits and perquisites for that position are not included on the personnel reports to the State Education Agency.

Multiple linear regression was used to analyze the data for each position. Daily salary was examined as a function of the independent variables of total experience in education, experience within the district, degrees earned, sex, ethnicity, school or district average daily attendance, and district per pupil expenditures. The number of variables was limited to criteria identified in the literature on compensation and available for all districts on the state data base.

The data on ethnicity and degrees were grouped into three categories each. Non-degree and bachelor's degree were grouped as

"bachelor's or lower." The other categories were master's and doctorate. Because of the small number of Asians and Native Americans in the sample, (6 out of 1,866), they were grouped with Anglos in the category "White and other."

A telephone survey and an analysis of salary schedules also were done. Twenty-three of the 27 personnel administrators or their designates participated to a telephone survey of formal and informal criteria used to make salary decisions. Fourteen of the 19 districts with formal salary policies forwarded copies for further analysis.[29]

FINDINGS

Survey Results

Nineteen of the 23 districts participating in the interviews had a written salary policy. Two of the remaining districts were in transition to a new compensation system and had not formalized the changes. The school board determined individual salaries in the other two.

Thirteen districts used experience-based, single-step schedules, in which a separate schedule is developed for each position. Higher salaries are assigned as the level of responsibility of the position increases. However, these schedules were not the sole

determinants of salaries, and adjustments for education and school size, as described below, were possible.

Seven districts utilized a schedule format that included years of experience but also rewarded incumbents for the value of the position to the organization. One used a Management by Objectives format basing rewards on performance, and another used a point system combining performance and job worth. In one district, rewards were determined by the subjective decision of the personnel director who reported that he paid them "what they're worth."

Personnel directors in all but the district using the MBO performance-based plan indicated that administrators were rewarded for experience. Their policies also provided additional salary for holding advanced degrees and administering large schools. None of the personnel directors reported providing incentive pay to attract or retain minority administrators.

Nine of the districts provided increments for the doctorate, including a flat amount ranging from $500 to $3000, an additional 5% of base pay, and advancing one step on the schedule. In the 14 districts that did not reward the doctorate, the personnel directors stated that in the hiring process applicants with the doctorate were often given more consideration for a position than other candidates.

All 23 districts set higher salaries for secondary administrators than for elementary administrators, and 10

compensated principals and assistant principals in larger schools. For example, one district added $1000 to the salaries of principals of schools with ADA of 500 or more. In other cases superintendents or boards determined the size that qualified for a salary increase.

All of the personnel directors compared their salary schedules to those of similar districts and 91% conducted formal salary surveys. They used this information to revise salary schedules yearly.

Regression Analysis

The variables selected proved to have a significant impact on administrative salaries on all administrative positions but the associate superintendent. Analysis for that position is not reported. With the exception of total experience and in-district experience, the variables were independent of each other. The F test was used to determine the level of significance of the regressions. The regressions were significant for all positions but associate superintendent and explained from 15% to 50% of the salary variance. All criteria had a significant effect on at least one position; however, the effects of wage criteria were not consistent across positions. Tables 1a and 1b provide a descriptive overview of the data for each position.

Insert Tables 1a and 1b About Here

Table 2 reports the regression coefficients in the formulas predicting daily salaries for each position. Using the elementary principal as an example, Table 2 shows that, holding other variables constant, for every dollar per pupil spent in a district, the elementary principal's daily salary increases by an average of $.02. For every year's increase in total experience, the daily salary increases by an average of $1.26, while each additional year of in-district experience is worth an additional $.125. On the average, being black rather than white reduces an elementary principal's daily salary by $13.31, while being Hispanic rather than white reduces the daily salary by $6.41. Being male rather than female is worth $4.83 a day. The elementary principal with a master's degree earns $18.21 a day more than would be earned if the highest degree were the bachelor's. Holding the doctorate is worth an additional $9.69. For each additional student enrolled in the school, elementary principals earn an average of $.004 a day.

The strength of the prediction is indicated by the coefficient of multiple correlation of .632. That is, if the equation were used to predict the daily salary of every elementary principal, the correlation between the predicted salaries and actual salaries would be .632. The standard error of 16.63 shows about how far the predicted salaries would vary from the actual salaries.

Approximately two thirds of the actual salaries would fall within plus or minus $16.63 of the predicted salaries.

Insert Table 2 About Here

Table 3 shows the unique contribution of each variable to the predictions for each position. For most building level administrators, district expenditure per pupil and total experience account for most of the explained variance. For example, when per pupil expenditure is eliminated from the equation for elementary principals, the amount of variance explained drops by .148 from 39.0% to to 24.2%. Eliminating total experience reduces the explained variance to from 39% to 31.5%. The variables of per pupil expenditure and total experience alone account for nearly one-fourth of the explained variance in elementary principals' salaries. The variance explained by ethnicity and gender, though significant, is relatively small.

Insert Table 3 Here

The influence of the individual variables is not consistent across positions. Experience and per pupil expenditure proved to be the most consistent predictors of building administrators' salaries,

with education and ethnicity having less impact. Central office positions had no consistent predictors.

Resources. The district's available resources were operationalized as per pupil expenditure. Average per pupil expenditure in the sample ranged from $2775 a year to $4075 a year (SD = 389).

Per pupil expenditures had a significant impact on the salaries of elementary and middle school/junior high school administrators but no significant effect on central office salaries. The annual salary differences associated with seemingly insignificant amounts can be substantial. For example, the impact of each additional dollar per pupil spent in the district on daily salary was $.03 for middle school/junior high school assistant principals, or $6.00 over a 200-day contract, creating a potential difference as great as $7800 a year between the salaries of junior high principals in the highest and lowest spending districts.

Experience. Total experience as an educator was significant for all positions but the assistant and deputy superintendents. The impact on daily salary of each year's additional experience ranged from $.79 for junior high school principals to $3.61 for business officers. Assuming a minimum 200 day annual contract, this means an annual impact of each additional year of experience of $158 for junior high principals to $722 for business officers.

Within-district experience was significant only for senior high school assistant principals whose daily salary on the average increased $.42 for each additional year's experience in the district. The rewards for remaining in the district appear to be too small to be statistically significant for the other positions. However, interpretation is difficult as multicollinearity--the correlation between total experience and in-district experience--may have produced an underestimation of the independent effects of the experience variables. Correlations for total experience and in-district experience ranged from .228 to .879.

While significant, experience is not the primary determinant of differences in administrator salaries. Experience explained from 4% to 12% of the salary variance for building level administrators, 7% for personnel officers and 10% for business officers.

Education. Education significantly affected salaries for junior high principals, elementary assistant principals, assistant superintendents and personnel officers. However, the direction of the effect was not consistent.

At the building level, increased education was associated with increased salary, although the coefficient for the doctorate was not significant. For elementary assistant principals, holding the master's degree rather than the bachelors increased daily salary by an average of $16.90. Junior high principals with the master's rather

than the bachelor's earned an average of $45.00 a day more than those holding only the bachelor's degree. At the central office level, holding the doctorate rather than the master's was associated with lower salary. Assistant superintendents with a doctorate received $16.25 a day less than those with no doctorate. Personnel officers with the doctorate received $31.55 a day less than those without the degree.

Race/Ethnicity. Minority group status tended to be associated with lower salaries. Blacks received less than whites in the elementary principalship and the senior high school assistant principalship. Hispanic elementary principals and business officers received less than whites; however, Hispanics who were senior high assistant principals received significantly higher salaries than whites.

The direction of the ethnicity impact is clear. While not all coefficients were significant at the .05 level, being black or Hispanic rather than white lowered the salary for all positions but senior high assistant principals. The size of both sample and effects affect significance. The sample was largest for elementary principals (n = 516) and senior high assistant principals (n = 349). For central office positions, the ethnicity effect had to be very large, as occurred with Hispanic business officers, to be significant.

Among elementary principals, where the average daily salary was $202.71, being black rather than white reduced salary by

$13.31 a day on the average, while being Hispanic reduced salary by $6.40 a day. Black senior high assistant principals on the average received $10.22 less than whites, while Hispanics received $10.34 more than whites, compared to an average daily salary of $178.34. Being Hispanic lowered the business officers' daily salary by $36.09.

Sex. Being female had a significant negative impact for elementary principals and assistant principals and for assistant superintendents. For all other positions but the senior high principalship the direction of the effect was consistent but not significant at the .05 level, a consequence of the combination of the small number of women in the positions and the relatively small salary differential.

Holding other variables in the equation constant, women in the elementary principalship received an average of $4.83 a day less than men, while women in elementary assistant principalship received $5.06 less than men, compared to average daily salaries of $202.71 and $171.32 respectively. Female assistant superintendents received an average of $25.12 a day less than men.

Organizational Size. The size of the organization, operationalized as average daily attendance in the school or district, was significant only for senior high school administrators and deputy superintendents. Each additional ADA on a high school campus

added $.007 to the daily salary of principals and $.006 to the salary of assistants. On a 200 day contract year the annual impact of each additional student would be $.14 and $.12 respectively. For deputy superintendents, each additional ADA in the district increased daily salary by $.002.

While it would be predicted that larger student populations incur greater responsibility and larger salaries, organizational size is associated with salary differences only for high school administrators and deputy superintendents. Variables such as mobility and school size may explain this.

Deputy superintendents appear to be more mobile than other central office administrators, and high school administrators are somewhat more mobile than those at other building-levels. Mobile administrators can move to improve working conditions and salaries and can negotiate for a higher salaries than place-bound administrators can demand. The larger districts and high schools may appear more attractive to an individual seeking further career advancement or increased professional prestige. Districts may be more willing to hire from outside for the largest high schools than for elementary and middle schools.

Table 1b shows that deputy superintendents' average total experience is 24 years with 11 years in-district experience. On the average, 46% of their experience is in the employing district. In contrast, ssistant superintendents average 25.5 years total

experience and 18.5 years in the district (72% of career in the employing district) and personnel officers' average total experience 20 years with an average of 13.5 in-district (68% of the careers on the average in-district). While the average educational experience for business officers is only 12 years, the average in-district experience is nearly 10 years, giving an average 80% of the career spent in the employing district.

While less dramatic, the same pattern exists for principals. The average in-district experience is 74% of the career for high school principals, 80% for middle school principals and 78% for elementary principals. Among assistant principals, the average in-district experience is 67% of average total experience at the high school, 74% at the middle school/junior high school, and 70% at the elementary level.

The effect of organizational size on principals' salaries may also be a function of the greater variation in size at the senior high level. Variability in building enrollments can be assessed by comparing the standard deviations for average daily attendance. For high school principals, the standard deviation of 805 is 41.3% of the average school ADA of 1,952. The standard deviation of 278 is 31.2% of the average ADA for junior high/middle school principals. The standard deviation of 245 is 37.5% of the average ADA for elementary principals. There is more size variability in senior high

schools and, consequently, more opportunity for rewards to be associated with larger responsibility.

The number of students may not be the best measure of size and complexity. While increased size tends to be associated with increased complexity in many organizations, this association may not hold in public schools. Two schools with the same enrollment may differ in the number of special programs, and thus in complexity and appropriate rewards to administrators.

CONCLUSIONS

This study used readily accessible information from a state data base to gain understanding of the determinants of administrative salaries. The combination of organizational and personal variables examined in this study explained from 15% to 43% of the variance in building administrator salaries and 20% to 49% of central office administrator salaries. Each variable had a significant effect for at least one position. However, the effects of most variables were inconsistent across positions.

The findings show that differences in Texas administrator salaries are not purely a function of experience and advanced degrees. While these variables do have an impact, the effect is smaller than might be expected from the reported reliance on salary schedules. Where significant, experience accounted for only 4% to 12% of salary variance. Holding a master's degree rather than a

bachelors degree also was associated with higher salaries. Since the master's degree is required for permanent certification, the salary difference may reflect the value of certification rather than the formal degree itself.

The effect of holding a doctorate was more complex. While the degree increased the salary of most building level positions, it had a negative (but insignificant) impact on elementary assistant principals and senior high school principals, where only 3.0% and 1.4% respectively held the doctorate. At the central office level the effect was significant and negative for assistant superintendents and personnel officers, and the direction of the effect was negative for business officers. These results contrast with reported practices of rewarding administrators for earning the doctorate. Districts may be paying administrators for additional hours of formal education not associated with completing a degree.

Not surprisingly, local resources affect some administrator salaries. Districts with more money to spend pay elementary and middle school administrators more than do less wealthy districts. To the extent that higher salaries enable wealthy districts to attract and retain the most highly qualified staff, this contributes to inequity among districts. Surprisingly this effect does not hold for senior high school and central office administrators. Lower spending districts may attempt to keep the salaries of these high visibility positions competitive with salaries of neighboring districts.

As noted above, senior high school administrators and deputy superintendents have more inter-district mobility than others, and thus may have a better bargaining position than other administrators. The hedonic wage theory also may explain their decisions to move to positions with higher salaries.

While it would be predicted that larger student populations incur greater responsibility and larger salaries, and nine districts reported policies of providing increments for administrators in large schools, organizational size is associated with salary differences only for high school administrators and deputy superintendents. Unexamined variables such as mobility and variability in school size may explain the differences. The interaction of organizational size and level of expenditure may increase the demands on senior high principals and deputy superintendents. Clearly factors other than organizational size are involved in determining administrative responsibility, and future research should begin to identify and examine them.

Despite pressures for equal opportunity, salary disparities favoring white men were evident. Being non-white was associated with lower salaries for all positions but the senior high assistant principal. Similarly, women tended to be paid somewhat less than men with comparable responsibilities, education and experience, a practice found in the private sector[30] and administrator compensation in two other states.[31] It should be noted that these

differences are small relative to the total salary for most positions. Unexamined salary determinants may reduce the differentials even farther.

Pounder[32] addressed several traditional explanations for women's lower earnings, including the occupational segregation of women into elementary principalships or central office staff positions, and the assignment to women of different job titles with lower status than men with similar duties. In discussing her findings that women in the elementary principalship received less than men with comparable education and experience, she discounted differences in job performance as an explanation. Since there is evidence that women administrators are perceived as being equally, if not more, effective than men, she concluded that variability in job performance should be distributed randomly across men and women.

Two experience related explanations deserve additional research. Since women traditionally entered administration later in their teaching career than men,[33] differences in the amount of administrative experience may explain some of the salary differential. One study of administrator career mobility and salary gain in Oregon showed a "fairly strong" relationship between early promotion and salary gain.[34] Stone's[35] analysis of Oregon salaries showed that when experience was not decomposed into teaching and administrative experience, the regression showed significant

salary differences between men and women. Our data did not allow for investigation of this explanation.

Relatively less research exists on minority school administrators than on women.[36] Valverde and Brown assert that minority administrators are most likely to be assigned to schools with a large percentage of minority students or to programs identified with minorities.[37] To the extent that these schools receive less resources of all kinds than others, the relative devaluing of these organizations may account for salary discrepancies.

Accounting for the unexplained salary variance is more challenging than examining the known variance. While the equations were significant salary predictors for ten positions, the large unexplained variance shows that districts utilize additional criteria in compensation decisions. It is probable that the unexplained variance includes district assessment of individual merit and contribution to the organization, value of the position, and individual political and negotiating abilities. The existence of gender and race related discrepancies suggests that other social criteria also may have a salary impact.

The effect of mobility on salary deserves greater attention. The research on teacher mobility supports the hedonic wage theory by showing that teachers move from lower to higher paying districts and from less wealthy to more wealthy districts to improve their condition. This theory may also explain administrator mobility.

Administrators may have moved during their teaching careers, in order to secure the first administrative position, or to advance in administration. However, limited opportunities for promotion and district willingness to hire from outside make the calculations more complex than the teacher's decision to change districts.

Future research to account for the unexplained variance may be difficult, as different data sources must be tapped. The State Education Agency data base has limitations. It does not distinguish between teaching and administrative experience, and it is likely that this distinction is worth examining. Finally, it provides weak purchase on the variable of job responsibility. While it includes information on average daily attendance, it lacks information on other variables such as the number of special programs in a building or district and community characteristics that also affect responsibility level.this study suggests size is an inadequate measure of job responsibility.

Having identified macro-level variables that can be examined across districts, such as resources and size, and relatively comparable individual variables of education, experience, race and sex, salary research should focus on the organization level to account for the unexplained variance. Within district definitions of the value of each position to the organization, the difficulty of the job and individual administrators' performance and effectiveness may be idiosyncratic. Better understanding of the internal salary

decision processes is needed. The sensitivity of necessary information such as relative value of positions to the organization and results of individual performance evaluations makes this a challenging task.

FOOTNOTES

[1]American Compensation Association and American Society for Personnel Administration, *Elements of Sound Base Pay Administration* (Washington, D.C. Author, 1981).

[2]F. Hill, "The Relevant Other in Pay Comparisons," *Industrial Relations* 19(1980): 345-351.

[3]W. E. Sparkman and B. D. Walker, Education Reform and Changing Compensation Practices," *Journal of Eduction Finance* 14 (Summer 1988): 76-99.

4E.g. W. E. Caldwell, "Equity in Principals' Salaries: A Model," *NASSP Bulletin* 70 (1986): 70-71; B. Kienapfel, "Merit Pay for School Administrators Can Work," *NASSP Bulletin* 68:469 (1984): 87-92.

5 American Compensation Association & American Society for Personnel Administration, *Elements of Sound Base Pay Administration* (Washington, D.C.: Author, 1981).

6 Caldwell, "Equity in Principals' Salaries," pp. 70-71.

7 Sparkman and Walker, "Education Reform and Changing Compensation Practices," pp. 76-99.

[8] Caldwell, "Equity in Principals' Salaries," pp. 70-71; B. Kienapfel, "Merit Pay for School Administrators Can Work," pp. 87-92.

[9] J. D. Dunn and F. Rachel, *Wage and Salary Administration: Total Compensation Systems* (New York: McGraw Hill, 1971).

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TABLE 1a

Summary by Position

Position	N	% Male	% Dr.	% Mast.	% Black	% Hisp.
Elem. Principal	572	48.0	6.6	92.7	3.0	9.3
J.H.S. Principal	162	82.0	7.0	91.9	4.3	9.2
S.H.S. Principal	96	90.0	6.0	93.7	3.0	6.0
Elem. Asst. Principal	234	33.0	3.0	90.0	10.0	10.0
J.H.S. Asst. Principal	278	64.0	1.4	94.6	7.0	9.0
S.H.S. Asst. Principal	346	69.0	1.4	95.0	7.0	6.0
Deputy Supt.	23	87.0	39.0	56.0	8.0	0
Assoc. Supt.	21	86.0	19.0	76.0	0	4.7
Asst. Supt.	71	84.5	21.0	75.0	7.0	11.0
Business Officer	56	77.0	8.9	25.0	5.0	10.7
Personnel Officer	52	52.0	15.0	85.0	1.9	3.8

TABLE 1b

Summary by Position

Position	N	Total Exp.	S. D.	Dist. Exp.	S. D.	Salary /D	S. D.	ADA	Dist. Per Pupil Expend.
Elem. Principal	572	20.7	6.9	16.1	7.3	202.71	21.27	654	3,297
J.H.S. Principal	162	21.3	6.6	17.2	7.1	211.92	20.58	894	3,315
S.H.S. Principal	96	22.8	6.0	17.0	8.1	227.58	24.19	1,952	3,285
Elem. Asst. Principal	234	14.8	6.1	11.2	6.8	171.32	20.39	863	3,270
J.H.S. Asst. Principal	278	16.2	6.0	11.8	6.5	178.34	24.40	939	3,279
S.H.S. Asst. Principal	346	18.0	6.6	12.4	7.6	188.23	26.92	2,176	3,292
Deputy Supt.	23	24.0	6.1	11.3	8.5	286.81	38.45	25,775	3,547
Assoc. Supt.	21	25.8	6.0	18.0	7.6	262.51	22.42	28,171	3,161
Asst. Supt.	71	25.6	7.2	18.5	9.2	253.99	34.00	24,897	3,779
Business Officer	56	12.2	9.2	9.8	9.1	187.82	40.49	27,017	3,248
Personnel Officer	52	20.3	7.9	13.6	8.2	206.54	36.24	26,770	3,353

TABLE 2

Regression Coefficients by Position

Wage Criteria	Building-level Positions						Central Office Positions			
	Assistant Principal			Principal						
	Elem	JH/MS	SHS	Elem	JH/MS	SHS	Deputy Sup't	District Sup't	Business Officer	Personnel Officer
Per Pupil Expenditure	.014[a]	.017[a]	.007[a]	.020[a]	.026[a]	-.001	0.290	.004	.003	.008
Total Educ. Experience	1.750[a]	1.910[a]	1.490[a]	1.260[a]	.790[a]	1.490[a]	1.140	1.010	3.610[a]	1.730
Total Exp. in District	.330	.460	.420[a]	.130	.293	-.190	1.050		-1.210	1.150
Master's Degree	16.900[a]	16.450	14.380	18.200	45.800[a]	——	c	15.310[a]	c	c
Doctorate	-2.690	10.490	12.040	9.600	38.520[a]	-4.540	9.280	-16.250[a]	-6.980	-31.550
Sex	5.060[a]	.350	.630	4.800[a]	2.400	-8.480	4.950	25.120[a]	17.030	1.100
Black	-2.690	-13.900	-10.220[a]	-13.100[a]	-15.130	-15.780	-7.300	-13.230	-4.070[a]	5.760
Hispanic	-5.470	-5.090	10.340[a]	-6.400[a]	-1.600	-1.250	d	-9.460	-36.100[a]	4.190
Enrollment (ADA)	.005	.004	.001[a]	.004	.008	.007[a]	.002[a]	-.0002	-.000	-.000
Constant	88.490	71.490	107.150	87.500	57.850	198.790	67.040	206.770	141.700	156.280
Adj. R^2	.430	.400	.230	.390	.360	.150	.490	.200	.440	.260
Coeficient of Multiple Correlation	.670	.650	.500	.630	.630	.470	.820	.540	.730	.610
Standard Error	15.340	18.930	23.620	16.630	16.520	22.310	27.480	30.440	30.280	31.250

a) sig ≤ .05

b) For building administrators, enrollment is the average daily attendance in the building. For central office administrators, enrollment is district ADA.

c) All personnel officers have a master's degree. Only one deputy superintendent and one business officer did not have the degree.

d) No deputy superintendent was Hispanic.

TABLE 3

Contribution to Prediction for Each Variable

Source	Assistant Principals			Principals			Central Office			
	Elem	JH/MS	SHS	Elem	JH/MS	SHS	Deputy Sup't	District Sup't	Business Officer	Personnel Officer
Per Pupil Expenditure	.065	.067	*	.148	.208	*	*	*	*	*
Total Educ. Experience	.121	.114	.081	.075	.036	.090	*	*	.103	.071
Total Exp. in District	*	*	*	*	*	*	*	*	*	*
Ethnicity (Black and Hispanic)	*	*	.019	.018	*	*	*	*	.02	*
Sex	.013	*	*	.012	*	*	*	.054	*	*
Education	.015	*	*	*	.030	*	*	.111	*	.086
Enrollment	*	*	.015	*	*	.045	.127	*	*	*
R^2	.430	.400	.231	.390	.360	.150	.490	.200	.440	.260

*) not significant at ≤ .05 level